

The University of New Orleans/University of Veracruz Geo-Spatial Education Pilot Project: Implications for Future Inter-university Cooperation

Presented by:

Dr. Merrill Johnson—Associate Dean and Professor of Geography, College of Liberal Arts, University of New Orleans, Project Director

Other U.N.O. Participants Included:

- **Dr. David Clawson:** Director of Latin American Studies and Professor of Geography, University of New Orleans (tropical land use, agriculture).
- **Dr. Mahtab Lodhi:** Assistant Professor of Geography (remote sensing, water resources, land use/land cover).
- **Dr. Armond Joyce:** Professor (Adjunct) of Geography, University of New Orleans (remote sensing, tropical forests).

University of Veracruz Participants Included (But Were Not Limited to):*

- **Agustín Muñoz Ceballos:** Natural Science Department, School of Agricultural Sciences, University of Veracruz.
- **Juan Cervantes Pérez:** Atmospheric Sciences Faculty, University of Veracruz.
- **Ignacio Mora Gonzalez:** Earth Sciences Center, University of Veracruz.

*We wish also to acknowledge the considerable interest expressed in the Veracruz project by **Juan Manuel Irigoyen López** and his colleagues at the Consejo de Desarrollo del Papaloapan.

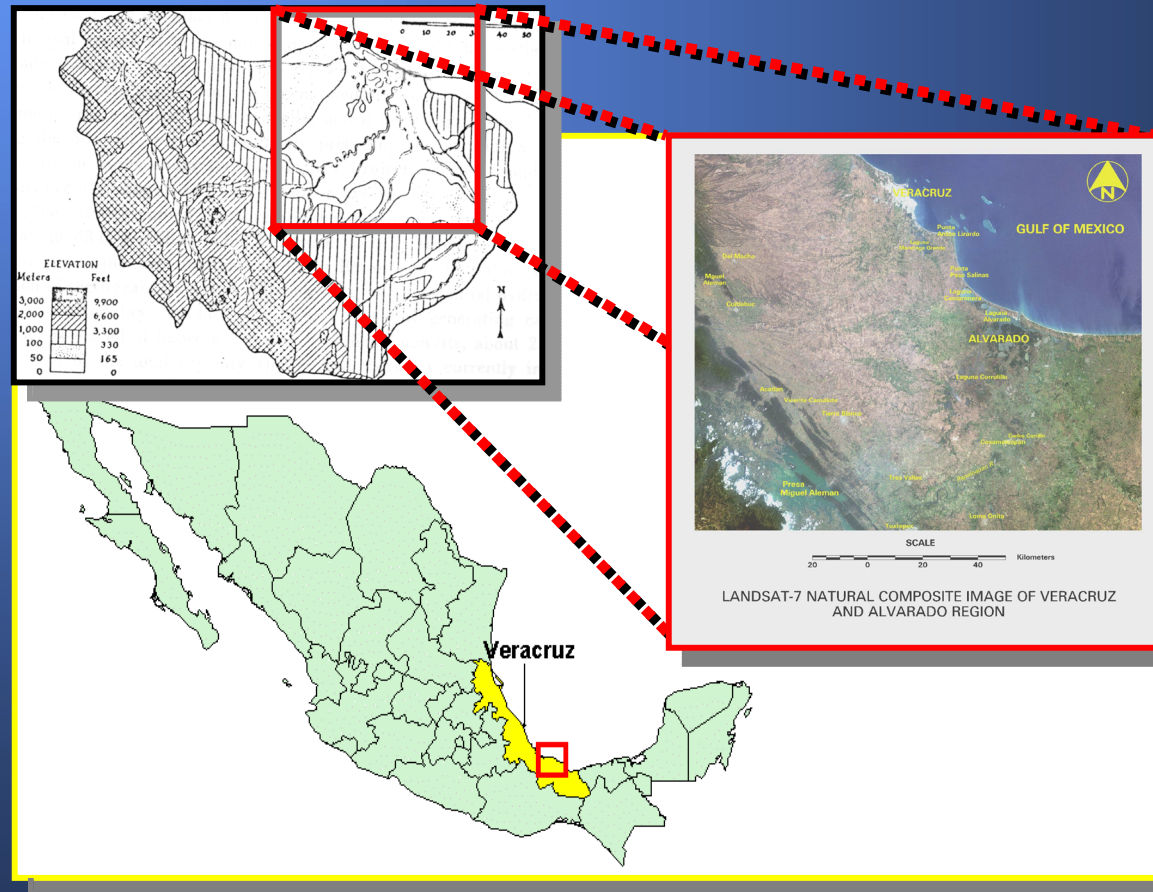
Purpose: . . . to define ways in which the University of New Orleans could work in collaboration with the University of Veracruz to apply remote-sensing and GIS technology to support college-level instruction in agricultural land-use analysis



Project Activities:

- **Fact-finding trip to University of Veracruz . . .**
- **Workshop at the University of Veracruz in remote-sensing principles and applications . .**

Preliminary satellite analysis of selected land uses and covers in the state of Veracruz . . .





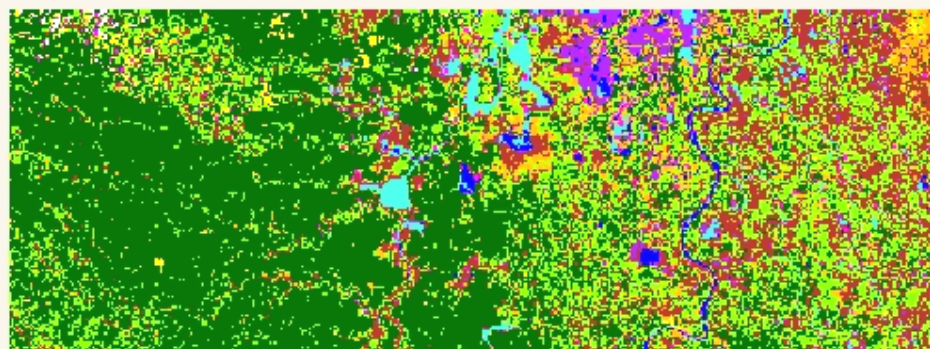
LAND USE / LAND COVER

Legend

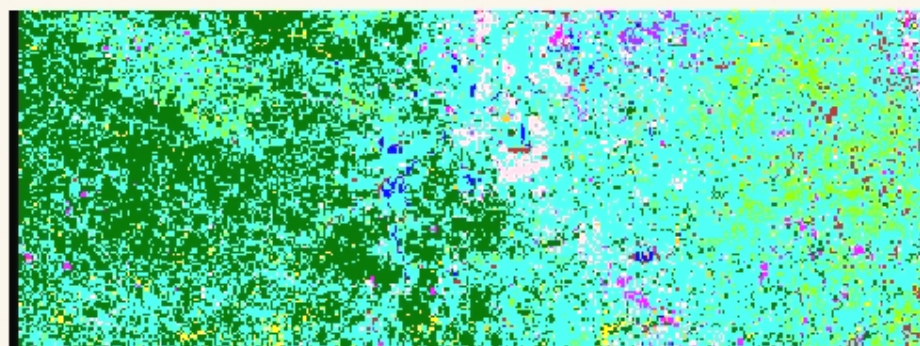
Class_Names

- Agriculture: Cultivated
- Agriculture: Fallow Land
- Aquatic Vegetation
- Cloud
- Cloud Shadow
- Deep / Clear Water
- Manglar
- Mixed Urban / Highways
- Scrub / Wetland Grasses Cloud Shadowed Agriculture
- Shallow / Turbid Water
- Unclassified
- Wetlands / Tidal

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1990



2001

- Design of teaching modules in remote sensing, and its use in tropical land-use and land-cover analysis . . . Included was an updated look at land classification . . .

Veracruz Teaching Modules: Land Use Introduction

NASA/University of Veracruz/University of New Orleans

◀ ***Toward a Model of Humid Tropical Land Cover and Land Use Classification--***

Classical agricultural typologies, as updated, can be combined with existing approaches to land-use/cover classification to produce a model for the humid tropics in Latin America, a model that places emphasis on the agricultural setting.

In the classification system that follows, the U.S.G.S. (Anderson) procedure is used as a starting point, with changes made to reflect the conditions of the humid tropics . . . *[Amendments and/or changes to the U.S.G.S. system are indicated in green.]*

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1. Urban/Built-Up Land--

- 1.1 Residential
- 1.2 Commercial
- 1.3 Industrial
- 1.4 Transportation, Communications
- 1.5 Industrial and Commercial
- 1.6 Mixed Urban or Built-Up Land
- 1.7 *Informal Residential (Urban Squatter Settlements)*
- 1.8 *Rural Settlement*

January 1, 2003

2. Agricultural Land--

- 2.1 Improved Pastures
- 2.2 *Largeholder Monoculture*
 - 2.21 *Sugar Cane*
 - 2.22 *Banana*
 - 2.23 *Coconut*
 - 2.24 *Pineapple*
 - 2.25 *Citrus*
- 2.3 *Smallholder Farming*
 - 2.31 *Slash and Burn (Milpa or Swidden)*
 - 2.32 *Permanently Worked Peasant*
- 2.4 *Intercropping*
 - 2.41 *Coffee*
 - 2.42 *Other*
- 2.5 *Aquaculture*
- 2.6 *Fallow*

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3. Grass and Range Lands--

3.1 Savanna (Mixed Trees and Grasses)

3.2 Grasslands

4. Forest Land--

4.1 Forested

4.2 Deforested

5. Water--

5.1 Streams and Canals

5.2 Lakes

5.3 Reservoirs

5.4 Bays and Estuaries

6. Wetland--

6.1 Forested Wetlands

6.2 Nonforested Wetlands

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7. Barren Land--

7.1 Dry Salt Flats

7.2 Beaches

7.3 Sandy Areas Other than Beaches

7.4 Bare Exposed Rock

7.5 Strip Mines, Quarries, Gravel Pits

7.6 Transitional Areas

7.7 Mixed Barren Land

7.8 Severely Eroded Soil

8. Highlands--

8.1 Tundra (Paramo or Puna)

8.2 Bare Ground

8.3 Ice

[U.S.G.S. "Tundra" and "Perennial Snow" categories are ommitted.]

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- Collateral benefit . . . familizarization with activities of CODEPAP—Consejo de Desarrollo del Papaloapan . . .

Implications for the Future:

- **Creation of a Gulf Coast data-warehouse, and research and instructional facility in GIS and remote sensing . . . multiple locations?**
- **Collaboration with the University of Veracruz to promote basic and advanced instruction in GIS and remote sensing throughout the Gulf region . . .**
- **Distance learning protocols . . .**
- **Student “cohorts” to earn degrees in GIS and remote sensing . . .**
- **Student and faculty exchanges . . .**

